



**T** *h e*

**CENTER  
FOR  
ELECTRONIC  
ART**

**O**ffers quality training in a wide variety of computer graphic disciplines. Trained on state-of-the-art equipment, our students produce professional quality work in a focused environment.

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Our staff includes nationally recognized experts who guide students as they enter the computer graphics field. For corporate clients, we offer individualized training and consulting services.

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329 BRYANT STREET SUITE 3D  
SAN FRANCISCO, CA 94107

BULK RATE  
US POSTAGE  
**PAID**  
SAN FRANCISCO, CA  
PERMIT NO. 11129

**(415) 882.7063**

**FALL / WINTER / 1990-91**

## ALLIANCES

Artists in Print (AiP), the Print Industries of Northern California, and the San Francisco Ad Club have selected us to offer training to their membership.

## NEW CORPORATE CLIENTS include:

Apple Computer, G.E. Government Services, Oracle, UNISYS, De Paul University, Broderbund Software, Pacific Telesis, Time Arts.

## PAST CORPORATE CLIENTS

1st Nat'l Bank, Hasbro, McKesson, MacWorld, NCGA, S.F. Examiner, U.S. Navy, UCSF, Businessland, Varian, Winterland Productions, Century 21 of Northern California, Lawrence Berkeley Labs, BHP Petroleum, Pacific Bell, Bechtel, and The California Democratic Party.

## AUTHORIZED TRAINING

C.E.A. is an Authorized Training center for Aldus (creators of PageMaker and Freehand) and Quark (Xpress).

## PRODUCTION NEWS

Our recent work includes projects for Fleet Street, Jack Morton Productions, KQED, and Hardy / Witty Productions. In addition, we completed a tongue-in-cheek music video of the '60s spy tune, Secret Agent Man, and dancing animated hammers (among other effects) for a rap music video that poked fun at rapper M.C. Hammer. Former student David Parsons created more than 60 seconds of animation for several commercials (client: Sheryl Mariner Productions.)

## PRODUCTION SERVICES

We offer 3D & 2D graphics and animation, single frame rendering to Betacam, high resolution slides, desktop publishing, Macintosh multimedia animation, Mac to video transfers, HyperCard/talk programming, video production, MIDI music, and Interactive Multimedia prototyping.

News

## C. E. A. STAFF

### Harold Hedelman, President

M.S. in Computer Graphics Cornell, B.S. in Math, B.S. Computer Science, San Francisco State University. He has exhibited computer art nationally, published many articles, and is a lifelong musician.

### Becky Brudniak

M. Ed in Instructional Technology, University of Texas, Austin. Phi Beta Kappa.

### Jeff Raby

BA in Art, Humboldt State University. Digital illustrator for Chromaset (SF) using Lumena, Crystal 3D, & Scitex. Plays bass with the Redwood Symphony Orchestra.

### Tom Ridge

BFA University of Maryland. Digital typographer with OMNCOMP in San Francisco.

## MORE ABOUT THE CENTER

### FREE COMPUTER TIME

Our hands-on classes include 3-6 hours of guaranteed weekly lab time and as much additional FREE computer time as available during operating hours.

### FREE COUNSELING

As an added benefit to our students, we offer evaluations of portfolios and resumes, and job placement counseling.

### SYSTEM RENTAL SERVICE

With or without an operator. Call for rates.

### WORK STUDY

Work Study positions may be available. Call for information.

### REGISTRATION INFORMATION

10% discount to students who pay in full one week in advance.

A 20% discount is offered to students who pay in advance for an entire course of study. Registration must take place before a class begins either by mail, phone, or in person. A \$25 deposit (non-refundable, per class) is required to reserve your place. Full tuition is due by the beginning of each course. Mastercard & Visa, 5% additional.

### REFUNDS

If a class is cancelled by C.E.A., you receive a full refund. If you request a refund before a class begins, a refund will be issued less the deposit. If you drop out after class starts, the refund is prorated.

Staff

# I

## INTRODUCTORY COURSES

### COMPUTER GRAPHICS FUNDAMENTALS

Demystifies the technology of computer graphics. Explains how computer graphics works to create print media, animation, and multimedia. Covers the differences, pros and cons of Macintosh versus the PC, and explains much of the jargon.

### IBM DOS FOR COMPUTER GRAPHICS

A must for paint and 3D. Explains DOS as needed for beginners.

# P

## 2D GRAPHICS & PAINT

### 2D GRAPHICS & PAINT I

Your intro to 2-D paint & graphics with Lumena, the finest 2D paint system. Lumena can be used for illustration, animation, and graphic design, all in full color. An amazingly rich tool for the visual arts professional.

### 2D GRAPHICS & PAINT II

Continue learning about Lumena. Includes image grabbing and photo manipulation.

### 2-D PORTFOLIO

Advanced study, individual guidance on portfolio projects in Lumena.

### QUANTEL PAINTBOX

Hands-on training on the legendary paintbox! Six students maximum. Two days on a weekend, or our Max-Hands-On Red-Eye Special!

### RIO

RIO is a powerful object oriented drawing program for the PC from AT&T. Great for design.

### LOGO EDITOR

A companion package to Rio with features similar to Illustrator or Freehand on the Macintosh.

### IMAGE PAINT

A powerful manipulation tool for still or animated 2D imagery.



# M

## 3D MODELING & ANIMATION

### CRYSTAL 3D I

3D modeling & animation on the CRYSTAL 3D/TOPAS PC-based system. Be ready to put your first 'toon on tape at the end of this 5 week intro! Learn how we do it in our own production setting.

### CRYSTAL 3D II

Continue with CRYSTAL 3D/TOPAS. Covers spline surfaces, metamorphosis, texture, environment, reflection mapping, and much more.

### 3D STUDIO

An introduction to Autodesk's great new 3D modeling and animation package.

### AUTOCAD

Introduction to the most popular PC based CAD program.

### ADVANCED CRYSTAL 3D / 3D STUDIO

Advanced portfolio projects.

# A

## ANIMATION

### STORYBOARDING

Storyboards are the clarifying skeleton for all moving images. A necessary pre-production element for animation.

### PRINCIPLES OF ANIMATION

Understanding animation principles is essential to bring your work to life.

# B

## BROADCAST

### SEMINAR: BROADCAST DESIGN PRINCIPLES

This single day seminar is jam-packed. The broadcast medium is unique, and to be used successfully a variety of basic principles must be understood. This entertaining seminar presents and illustrates those concepts.

### SEMINAR: THE VIDEO SIGNAL SAGA

Producing the finest art and graphics for the video medium requires a basic understanding of the video signal itself. This seminar explains the video signal in simple terms, and how it is used and transformed in a typical production facility.



## MACINTOSH DESKTOP PUBLISHING

### MACINTOSH BASICS

Introduction to text processing and Mac graphics. MacWrite, MacDraw, & disk management.

### DESKTOP PUBLISHING PAGEMAKER

Create your own newsletter, fliers, brochures, or forms. Do your own typesetting!

### DESKTOP PUBLISHING PAGEMAKER II

Advanced techniques; become an expert!

### ALDUS FREEHAND

Sophisticated Postscript drawing for camera ready art. Includes gradations and layers, rotate, skew, reflect, & scaling tools.

### QUARK EXPRESS

Provides the finest typographic tools available on the Mac.

### ILLUSTRATOR

Adobe's Illustrator 88 is one of the hottest design tools ever.

### DESKTOP PORTFOLIO

Portfolio projects and problem solving in the areas of Adobe Illustrator, Quark Xpress, Aldus Freehand and Pagemaker.

### ADOBE PHOTOSHOP

More than a photographer's dream, Photoshop is an amazing tool for manipulating color images on the desktop. It has great separation tools.

### PIXELPAINT PROFESSIONAL

Without a question, this program is one of the finest tools available on the Mac for illustration and creating color imagery.

### PERSUASION

Generating a classy business presentation with coordinated slides, handouts, overheads, and computer monitor screen projections is a snap with this sophisticated tool.

### TYPESTYLER

This handy program can generate custom type effects that make traditional typographers scratch their heads! When you need that special squash, stretch, bend, wrap, fill or whatever, Typestyler's the place to look.

### GREY SCALE SCANNING

Take a look at what's involved in getting high quality scans into your work.



## MAC MISCELLANY

An overview of advanced Mac system features not covered in our Basics class, including: Multifinder, Adobe Type Manager, init's & cdev's, networks, modeming, IBM/Mac file transfers, and more.

### COLORSTUDIO

A comprehensive, full color tool with the capabilities of advanced image processing and prepress systems. Has excellent tools for color separation.

### PIXAR'S MACRENDERMAN

This course is an introduction to creating photo realistic 3D computer graphics, using the world's most sophisticated rendering program.

### SWIVEL 3D

In addition to being a great introduction to the world of 3D modeling and animation on the Macintosh, Swivel is a valuable companion to desktop publishing applications, as well as multimedia.

## IMM

## INTERACTIVE MULTIMEDIA

### MACROMIND DIRECTOR 3.0

This legendary program allows you to create animated movies and presentations complete with sound track. Multimedia magic! Integrates easily with 3D animation, HyperCard and other Mac programs.

### HYPERCARD / HYPERTALK PROGRAMMING

HyperCard has become the glue that holds together, and the catalyst that's making possible multimedia communications that are revolutionizing the way we think, learn and communicate.

### FILMMAKER

The first program to compete with Director. Great for full color work, easy interactive programming.

### INTENSIVE MULTIMEDIA WORKSHOP

This two-week workshop is for Mac-literate communicators who want to learn to build videodisc based multimedia projects from real pro's. Call to receive our separate IMM workshop brochure.





## MAKE-A-DIFFERENCE PROJECTS

Our social advocacy program enabling you to "make-a-difference" through technology has included the following projects:

### **HAWAIIAN RAINFOREST ACTION NETWORK**

Designer and CEA student Judith Haig worked with the Civic Affairs Committee of the SF Advertising Club, and the Rainforest Action Network, to design and create a press kit on the impact of power projects on Hawaiian rainforests.

### **EARTHQUAKE PREPAREDNESS**

Our November multimedia workshop is creating an interactive videodisk project that deals with the topic of earthquake preparedness.

### **INTERACTIVE MILK CARTON - Missing Kids**

Students in our October multimedia workshop focused on the problem of missing kids, on helping parents recover a missing child, on helping citizens search a database of missing children, and on prevention. We thank the staff of the Vanished Children's Alliance for their cooperation.

### **KIOSK MAKES EVENING NEWS**

A public info and polling kiosk, created by students in our 10-day multimedia workshop, was featured on KRON-TV's evening technology digest (TV 4, San Francisco.) Students in our August workshop created a kiosk to let users explore and vote on a public policy issue. The kiosk focused on the future of S.F.'s Embarcadero Freeway, closed since the October 1989 earthquake.

CALL CEA to view or discuss these or any future projects.

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# NEWS

## NEW COURSES

**Claris CAD** debuts at CEA (Macintosh.) A top-rated product from Claris. Additional CADD courses will be announced in the Spring.

**3DStudio** from Autodesk. This 3D modeling and animation program is receiving rave reviews and offers excellent price/performance. It's a great companion to our Crystal/Topas and Swivel 3D courses.

**FilmMaker**, from Paracomp, not only challenges Macromind's multimedia Director program, but offers superior capabilities in several important areas.

**Oasis**, Time Arts, is the first paint program (that doesn't cost megabucks) designed from the ground up to use a pressure-sensitive stylus. If you've experienced computer painting with today's usual on-off only digitizing styli, you'll rave at Oasis.

**Toolkit** is a PC based HyperCard work-alike. IBM is moving quickly to make inroads into interactive multimedia, and Toolkit is an important step in that direction.

**Independent Studies** in videographics, desktop publishing, or interactive multimedia, is a custom course that you can repeat while working on individual portfolio projects.



**INTRODUCTORY COURSES**

**I1 Computer Graphics Fundamentals \*** **\$80**  
2 wks 7 - 9 PM Thu Jan 10 - Jan 17  
Mar 21 - Mar 28

**I2 IBM DOS For Computer Graphics \*** **\$80**  
1 wk 7 - 9 PM Thu Jan 24  
Apr 4

**2D GRAPHICS AND PAINT**

**P1 2D Graphics & Paint I** **\$400**  
5 wks 7 - 9 PM Tue Jan 8 - Feb 5  
Mar 19 - Apr 16

**P2 2D Graphics & Paint II** **\$400**  
5 wks 7 - 9 PM Tue Feb 12 - Mar 12

**P3 2D Portfolio** **\$400**  
5 wks 7 - 9 PM Wed Mar 20 - Apr 17

**ANIMATION**

**A1 Storyboarding** **\$300**  
4 wks 1 - 4 PM Sat Feb 2 - Feb 23

**A2 Principles of Animation** **\$225**  
3 wks 1 - 4 PM Sat Mar 16 - Mar 30

**A3 Autodesk Animator** **\$400**  
2 days 9 - 5 PM Sat - Sun Apr 13 - 14

**BROADCAST**

**B1 Broadcast Design Principles** **\$150**  
1 day 10 AM - 4 PM Sat Jan 19

**B2 Video Signal Saga** **\$150**  
1 day 10 AM - 4 PM Sat Jan 26

**3D MODELING & ANIMATION**

**M1 3D 1** **\$400**  
5 wks 6:30 - 9 PM Mon Jan 7 - Feb 4  
Mar 18 - Apr 15

**M2 3D 2** **\$400**  
5 wks 6:30 - 9:00 PM Mon Feb 11 - Mar 11

**M3 Advanced 3D** **\$400**  
5 wks 6:30 - 9 PM Thu Jan 10 - Feb 7

**M4 3DStudio** **\$400**  
5 wks 6:30 - 9 PM Thu Feb 14 - Mar 14

**MACINTOSH DESKTOP PUBLISHING**

**D1 Mac Basics\*\*** **\$160**  
2 wks 7 - 9:30 PM Mon Jan 7 - 14  
Wed Feb 20 - 27  
Mon Apr 15 - 22

**D2 Aldus PageMaker 1** **\$180**  
2 wks 7 - 9:30 PM Mon Jan 21 - 28  
Wed Mar 6 - 13

**D3 Aldus PageMaker II** **\$180**  
2 wks 7 - 9:30 PM Mon Feb 4 - 11  
Wed Mar 20 - 27

**D4 Aldus Freehand** **\$180**  
2 wks 6:30 - 9:30 PM Mon Feb 18 - 25  
Wed Apr 3 - 10

**D5 QuarkXPress** **\$290**  
3 wks 7 - 9:30 PM Wed Jan 9 - 23  
Mon Mar 4 - 18  
Wed Apr 17 - May 1

**D6 Adobe Illustrator** **\$270**  
3 wks 7 - 9:30 PM Wed Jan 30 - Feb 13  
Mon Mar 25 - Apr 8

**D7 Oasis** Call to express interest

**D8 Adobe Photoshop** **\$300**  
3 wks 6:30-9 PM Tue Jan 29 - Feb 12

**D9 PixelPaint Professional** **\$300**  
3 Wks 6:30 - 9 PM Tue Feb 19 - Mar 5

**D10 Broderbund TypeStyler** **\$95**  
1 wk 6:30 - 9 PM Tue Mar 12

**INTERACTIVE MULTIMEDIA**

**IMM1 Director 2.0** **\$400**  
5 wks 6:30 - 9 PM Tue Mar 19 - Apr 16

**IMM2 HyperCard / Talk Programming** **\$320**  
4 wks 7 - 9 PM Thu Feb 21 - Mar 14

**IMM3 Swivel 3D** **\$320**  
4 wks 7 - 9 PM Thu Mar 21 - Apr 11

**IMM4 FilmMaker** **\$400**  
5 wks 6:30 - 9:30 PM Thu Jan 17 - Feb 14

**IMM5 ToolKit** **\$180**  
2 wks 6:30 - 9:30 PM Thu Apr 18 - 25

**INTENSIVE Interactive Multimedia Workshop** **\$1750**  
2 wks 9 AM - 5 PM M - F Jan 28 - Feb 8  
Feb 25 - Mar 8

**CADD**

CALL for a schedule of CADD courses

**Independent Studies**

You can arrange to work independently on your portfolio, with or without an instructor's guidance. Call for details.

\* Required for P1, M1, A3, IMM5, Cert. & Intern Program

\*\* Required for D1-D10, IMM1-4, Cert. & Intern Program